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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/706,949	11/14/2003	Byung-Youn Song	1793.1085	7769

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EXAMINER	
KAYRISH, MATTHEW	

ART UNIT	PAPER NUMBER
2627	

DATE MAILED: 08/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/706,949	SONG ET AL.	
	Examiner	Art Unit	
	Matthew G. Kayrish	2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 June 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-18 and 20-25* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3-18 and 20-25* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *14 November 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-25 have been considered but are moot in view of the new ground(s) of rejection. Claims 1, 10 and 18 have been amended. Claims 2 and 19 have been canceled. This rejection is made Final.

Claim Rejections - 35 USC § 103

2. Claims 1, 8, 9, 18, 20 and 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimokawa et al (Japanese Patent Number JP 11-306570 A), in view of Ezawa et al (US Patent Number 5666843).

Regarding claim 1, Shimokawa et al disclose:

An optical pickup actuator for driving, via a magnetic driving unit, in focusing, tracking, and tilting directions (figure 1, items 111, 112 and 113), a bobbin (figure 4, item 22) on which an objective lens (figure 1, item 23) is disposed, comprising:

Wherein the magnetic driving unit includes:

First magnets disposed at opposing sides of the bobbin, respectively;

Tracking coils which are wound around the bobbin to oppose respective ones of the first magnets;

Second magnets which are spacedly disposed from respective ones of the first magnets, respectively; and

Focusing coils which are wound between the first magnets and the second magnets;

Shimokawa et al fail to specifically disclose:

An optical pickup actuator with at least one damping member disposed at a position where great changes in the optical pickup actuator occur when the magnetic driving unit drives the bobbin in one of the focusing, tracking, and tilting directions, so that a size of a second resonant peak is reduced.

Wherein a first damping member is disposed at a center portion of the focusing coils.

Ezawa et al disclose:

An optical pick up actuator comprising:

A bobbin (figure 6, item 2);

A magnetic driving unit (figure 6, combination of magnets [13a & 13b] and coils [4a, 4b, 22a & 22b]);

Wherein optical pickup actuator includes at least one damping member (figure 6, items 3a & 3b) disposed at a position where great changes in the optical pickup actuator occur (figure 6, item 2 is subject to vibration; hence, the reason for dampers) when the magnetic driving unit drives the bobbin in one of the focusing, tracking, and tilting directions (figure 6, items 4 and 22 [coils] use magnets [13] to control focus and tracking), so that a size of a second resonant peak is reduced (figure 9, column 7, lines 8-12).

Wherein a first damping member is disposed at a center portion of the focusing coils (figure 6, dampers [3] will be disposed at the center portions of focusing coils [4]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include damping members at the center of Shimokawa et al's focus coils on their bobbin, as taught by Ezawa et al, because damping members disposed at this location will not only reduce vibration, but will also help prevent vibration of the source which ultimately causes the vibration. Providing the damping members in center portions of the focusing coils will provide a more secure prevention of the vibration caused by this part of the magnetic driving unit.

Regarding claim 8, Shimokawa et al disclose:

The optical pickup of claim 1, wherein the bobbin is movably supported by plural suspension wires (figure 1, item 33).

Regarding claim 9, Shimokawa et al disclose:

The optical pickup actuator of claim 1, further comprising:

First yokes to which the first magnets are respectively attached (figure 1, item 30);

Second yokes to which the second magnets are respectively attached (figure 1, item 28); and

Third yokes (figure 1, item 32) to which the third magnets are respectively attached (figure 1, item 31).

3. Claims 3-7, 21 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimokawa et al, in view of Ezawa et al, in further view of Song et al (US Patent Number 6091553).

Regarding claims 3 and 6, Shimokawa et al, in view of Ezawa et al fail to specifically disclose:

An optical pickup actuator wherein the bobbin has corners and second damping members are respectively disposed at each corner.

Song et al disclose:

An optical pickup actuator wherein the bobbin has corners and second damping members are respectively disposed at each corner (figure 8, item 80).

Regarding claims 4, 5 and 7, Shimokawa et al, in view of Ezawa et al fail to specifically disclose:

An optical pickup actuator wherein a metallic heterogeneous material is mixed with the second damping member.

Song et al disclose:

An optical pickup actuator wherein a metallic heterogeneous material is mixed with the second damping member (column 6, lines 20-28).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to place damping members at the corners of Shimokawa et al's bobbin, as taught by Song et al, because the corners of the bobbin are the furthest from the center of the bobbin. Minimal vibrations in the center of the bobbin can result in large uncontrollable vibrations at a large radius from the center. Provided that the corners are at the largest

possible distance from the center, placing something to damp the vibrations at the extreme locations would help to damp the vibrations from a wide variety of locations on the bobbin. This would produce a more stable bobbin and would therefore give a more accurate reading of the signal. Furthermore, making the damping members from a metallic material would have been obvious to one of ordinary skill in the art at the time the invention was made, because the damping members are there to reduce vibrations, which means, they undergo stretching and bending, which causes wear and tear over time. By making these damping members out of metallic materials, rigidity is added to the damping members, giving them more strength, which will give them a longer life.

4. Claims 10-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al (US Publication Number 2003/0193854), in view of Sekimoto et al. (US Patent Number 5446721).

Regarding claim 10, Lee et al disclose:

An optical pickup actuator comprising:

A base (figure 5, item 20);

A moving unit (figure 5, item 10) in which an objective lens (figure 5, item 11) is disposed at a side (item 11 is on the side of the moving unit) thereof and having a receiving hole at a center thereof (figure 5, items 21 & 22 stick out of these holes);

A bobbin (figure 5, item 14) which is receivable in the receiving hall (figure 5, bobbin is received) so as to move together with the moving unit (page 3, paragraph 38, bobbin [14] and moving unit [10] are attached, therefore will move together); and

A magnetic driving unit (figure 6, made up of items 12, 13, 50, 21, and 15) disposed in the base and which drives the moving unit in focusing (figure 6, items 13 and 21 control focus), tracking (figure 6, items 12 and 21 control tracking), and tilting directions (figure 6, items 15 and 50 control tilting).

Lee et al fail to specifically disclose:

An optical pick up actuator wherein a damping member is disposed at shoulder portions of both sides of the receiving hole near the objective lens so that a size of a second resonant peak is reduced;

Sekimoto et al disclose:

An optical pick up actuator comprising:

A base (figure 1, item 4);

A moving unit (figure 1, item 3) with shoulders (figure 1, item 5f);

A bobbin (figure 7, items 7 & 8);

An objective lens (figure 1, item 2);

A receiving hole (figure 1, item 9a);

Wherein a damping member (figure 2e, item 16) is disposed at shoulder portions (figure 2e, item 16 is at shoulders [5f]) of both sides of the receiving hole (figure 1, item 9e) near the objective lens (figure 1, shoulders are on both sides of the receiving hole and

near the objective lens) so that a size of a second resonant peak is reduced (column 4, lines 30-36);

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide Lee et al's shoulder portions on the sides of the receiving hole with damping members, as taught by Sekimoto et al, because the bobbin is connected to the base via the shoulders. Vibrations can be limited by placing damping members at the locations where the bobbin is connected to the base. As can be seen in figure 2e, this is the case. The connections of shoulders 5f and 5g both have damping members 6 and 16. Providing for the limiting vibrations through these members will limit vibrations from the source. This will therefore allow a more accurate signal to be recorded.

Regarding claim 11, Lee et al disclose:

The optical pickup actuator of claim 10, wherein the magnetic driving unit includes:

Focusing coils, which are wound around the bobbin (figure 5, item 13);

Tracking coils (figure 5, item 12), which are wound around a side of the bobbin (figure 5, item 14) and are disposed at the center portion of the receiving hall (in center part of the receiving portion); and

First and second magnets (figure 5, item 21) disposed at sides of the tracking coils (figure 5, items 21 & 21 are on both sides of tracking coils [12]).

Regarding claims 12 and 13, Lee et al fail to disclose:

An optical pickup actuator with a damping member, wherein a metallic heterogeneous material is mixed with the damping member.

Sekimoto et al disclose:

An optical pickup actuator with a damping member, wherein a metallic heterogeneous material is mixed with the damping member (column 4, lines 2-5).

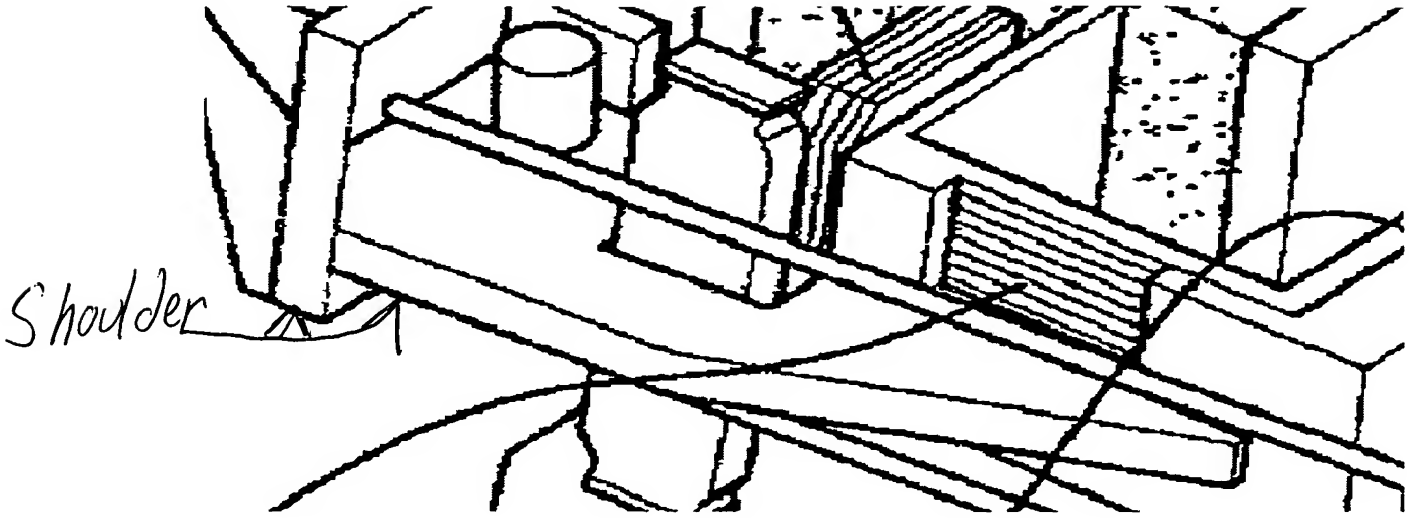
Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to make Lee et al's damping members from a metallic material, as taught by Sekimoto et al. Because the damping members are there to reduce vibrations, they undergo stretching and bending, which causes wear and tear over time. By making these damping members out of metallic materials, rigidity is added to the damping members, giving them more strength, which will give them a longer life.

Regarding claim 14, Lee et al disclose:

The optical pickup of claim 14, wherein the bobbin is movably supported by plural suspension wires (figure 5, item 30).

Regarding claim 15, Lee et al disclose:

The optical pickup apparatus of claim 14, wherein the receiving hall has shoulders at opposing sides thereof (refer to figure below), and wherein the at least one location where changes of the actuator occur most frequently are the shoulders (changes will most frequently occur at the shoulders because they are at the greatest distance from the center).



Regarding claim 16, Lee et al disclose:

The optical pickup of claim 14, further comprising:

A first yoke to which the first magnet is attached (figure 5, item 22); and

A second yoke to which the second magnet is attached (figure 2, item 22).

Regarding claim 17, Lee et al disclose:

The optical pickup of claim 16, wherein the bobbin includes a first guide hole (figure 5, center of the bobbin), the receiving hall includes a second guide hole (figure 2, item 12 is in the second guide hole), and the first and second yokes are respectively received by the first and second guide holes (figure 5, yokes are in the guide holes).

5. Claims 18 and 20-25 have limitations, which are similar to or inherent from those of claims 1 and 3-17, therefore, are rejected on the same basis.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew G. Kayrish whose telephone number is 571-272-4220. The examiner can normally be reached on 8am - 5pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrea Wellington can be reached on 571-272-4483. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Matthew G. Kayrish 7/14/2006

MK

7/14/2006

ANDREA WELLINGTON
SUPERVISORY PATENT EXAMINER